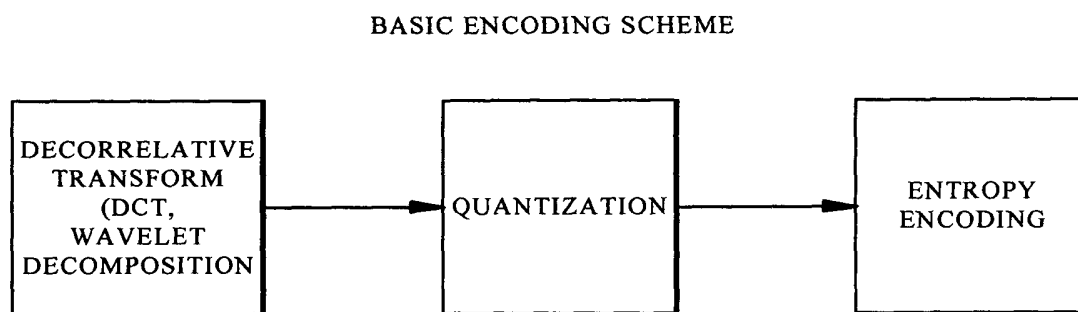


FIG.1



FREQUENCY ALLOCATION AFTER
THE FIRST LEVEL OF TRANSFORM

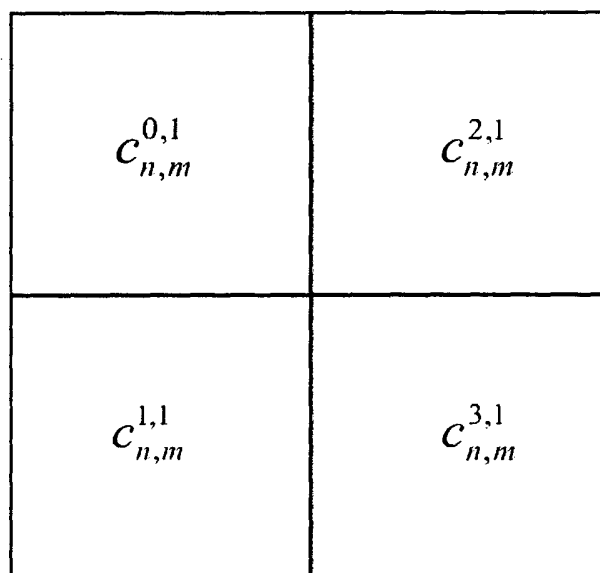


FIG.2

PSNR VALUES FOR PICTURES RESTORED AFTER
COMPRESSING BY JPEG 2000 AND GIVEN METHOD

PICTURE QCIF	COMPRESSION RATIO	PSNR (Db)	
		JPEG2000 (LURA WAVE COMPANY)	GIVEN METHOD
		RGB	RGB
FOREMAN 1	29,1	27,62	29,94
FOREMAN 2	26,7	26,65	28,85
HORSE	34,26	28,86	29,99

FIG.3

PSNR VALUES FOR PICTURES RESTORED AFTER
COMPRESSING BY JPEG 2000 AND GIVEN METHOD

PICTURE SIF	COMPRESSION RATIO	PSNR (Db)	
		JPEG2000 (LURA WAVE COMPANY)	GIVEN METHOD
		RGB	RGB
BOAT	49.34	30.5	30.54
DANCE	46.35	27.24	27.27
HORSE	50.12	33.44	33.49

FIG.5

Visual quality for pictures restored after compressing by
JPEG2000 and given method.

Compression ratio is the same




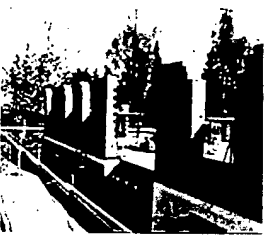

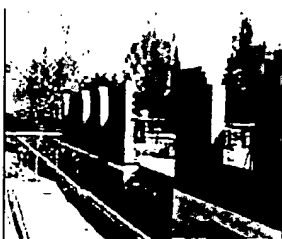



Original Picture	JPEG2000	Given Method
 Foreman 1	 Foreman 1	 Foreman 1
 Foreman 2	 Foreman 2	 Foreman 2
 Horse	 Horse	 Horse

FIG.4

FIG.6

Visual quality for pictures restored after compressing by
JPEG2000 and given method.

Compression ratio is the same

Original Picture - Boat



JPEG2000



Given Method



FIG.7

Visual quality for pictures restored after compressing by
JPEG2000 and given method.

Compression ratio is the same

Original Picture - Dance



JPEG2000



Given Method



FIG.8

Visual quality for pictures restored after compressing by
JPEG2000 and given method.

Compression ratio is the same

Original Picture - Horse



JPEG2000



Given Method



FIG.9A

Filtering coefficients for the first level of wavelet decomposition.

$$h_{ij}^0(i, j = 0, 1, \dots, 20)$$

Column Row j \ i	1	2	3	4	5	6	7	8	9	10	11	12
1	0.00000002	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
2	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
3	-0.00000010	-0.00000001	0.00000001	-0.00000001	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
4	0.00000000	-0.00000001	0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
5	0.00000053	0.00000004	-0.00000005	0.00000004	0.00000005	-0.00000001	-0.00000002	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
6	-0.00000001	0.00000003	-0.00000003	0.00000000	0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
7	-0.00000271	-0.00000021	0.00000023	-0.00000019	-0.00000021	0.00000003	0.00000007	0.00000000	-0.00000002	0.00000000	0.00000001	0.00000000
8	0.00000051	-0.00000009	0.00000009	0.00000005	0.00000000	-0.00000001	0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
9	0.00001369	0.00001136	-0.0000143	0.00000081	0.00001100	-0.00000013	-0.00000031	0.00000001	0.00000007	-0.00000001	-0.00000002	0.00000000
10	0.00001178	0.00000087	-0.00000078	-0.00000005	0.00000026	0.00000004	-0.00000006	-0.00000002	0.00000003	0.00000000	-0.00000001	0.00000000
11	-0.00007364	-0.00000544	0.00000551	-0.000000348	-0.000000436	0.00000061	0.00000130	-0.00000003	-0.00000029	0.00000004	0.00000009	-0.00000001
12	0.00000299	-0.00000518	0.00000074	-0.00000004	-0.00000134	-0.00000014	0.00000047	0.00000008	-0.00000016	0.00000000	0.00000004	0.00000000
13	0.00041019	0.00003008	-0.00002944	0.00001573	0.00001730	-0.000000283	-0.000000529	0.000000018	0.000000094	-0.000000016	-0.000000029	0.000000003
14	-0.00016031	0.00000410	-0.00000448	-0.00000901	-0.00000242	0.00000114	0.000000060	-0.000000040	0.000000018	0.000000008	-0.000000003	-0.000000002
15	-0.00193295	-0.00026852	0.00025435	-0.00005571	-0.00009557	0.00000880	0.00002624	0.00000060	-0.00000529	0.00000047	0.00000130	-0.00000006
16	-0.00095144	-0.00016141	0.00014289	-0.00000283	-0.00005370	-0.00000153	0.00000880	0.00000114	-0.00000283	-0.00000014	0.00000061	0.00000004
17	0.01554475	0.00066192	-0.00054612	0.00020612	0.00035986	-0.00005370	-0.00009557	-0.00000242	0.00001730	-0.00000134	-0.00000436	0.00000026
18	-0.00304332	0.00136103	-0.00126582	-0.00002280	0.00020612	-0.00000283	-0.00005571	-0.00000901	0.00001573	-0.00000004	-0.00000348	-0.00000005
19	-0.07749230	-0.00621867	0.00583947	-0.00126582	-0.00054612	0.00014289	0.00025435	-0.00000448	-0.00002944	0.00000474	0.00000551	-0.00000078
20	0.08046033	0.00661641	-0.00621867	0.00136103	0.00066192	-0.00016141	-0.00026852	0.00000410	0.00003008	-0.00000518	-0.00000544	0.00000087
21	0.47367336	0.08046033	-0.07749230	-0.00304332	0.01554475	-0.00095144	-0.00193295	-0.00016031	0.00041019	0.00000299	-0.00007364	0.00000178

FIG.9B

Filtering coefficients for the first level of wavelet decomposition.

Column Row	13	14	15	16	17	18	19	20	21
1	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
2	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
3	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
4	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
5	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
6	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
7	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
8	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
9	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
10	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
11	-0.00000002	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
12	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
13	0.00000006	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
14	0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
15	-0.00000026	0.00000000	0.00000005	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000
16	-0.00000011	-0.00000001	0.00000003	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000
17	0.00000086	0.00000000	-0.00000018	0.00000001	0.00000004	0.00000000	-0.00000001	0.00000000	0.00000000
18	0.00000070	0.00000004	-0.00000016	0.00000000	0.00000003	0.00000000	-0.00000001	0.00000000	0.00000000
19	-0.00000124	0.00000008	0.00000018	-0.00000003	-0.00000004	0.00000000	0.00000001	0.00000000	0.00000000
20	0.00000121	-0.00000008	-0.00000017	0.00000003	0.00000003	0.00000000	-0.00000001	0.00000000	0.00000000
21	0.00001204	0.00000052	-0.00000233	0.00000000	0.00000044	0.00000000	-0.00000008	0.00000000	0.00000002

FIG.10A

Filtering coefficients for the second level of wavelet decomposition.

$$h_{ij}^1(i, j = 0, 1, \dots, 20)$$

Column Row j \ i	1	2	3	4	5	6	7	8	9	10	11	12
1	0.00000002	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
2	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
3	-0.00000009	-0.00000001	0.00000001	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
4	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
5	0.00000046	0.00000003	-0.00000004	0.00000004	0.00000004	-0.00000001	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
6	0.00000000	0.00000003	-0.00000003	0.00000000	0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
7	-0.00000241	-0.00000018	0.00000019	-0.00000017	-0.00000018	0.00000003	0.00000006	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000
8	0.00000051	-0.00000008	0.00000008	0.00000004	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
9	0.00001237	0.00000123	-0.00000128	0.00000072	0.00000089	-0.00000011	-0.00000027	0.00000001	0.00000006	-0.00000001	-0.00000002	0.00000000
10	0.00000187	0.00000079	-0.00000072	-0.00000004	0.00000023	0.00000003	-0.00000005	-0.00000001	0.00000002	0.00000000	-0.00000001	0.00000000
11	-0.00006793	-0.00000483	0.00000482	-0.00000317	-0.00000396	0.00000054	0.00000115	-0.00000002	-0.00000025	0.00000004	0.00000008	-0.00000001
12	0.00000180	-0.00000495	0.00000455	-0.00000014	-0.00000128	-0.00000012	0.00000044	0.00000007	-0.00000014	0.00000000	0.00000004	0.00000000
13	0.00038895	0.00002709	-0.00002621	0.00001475	0.00001576	-0.00000261	-0.00000476	0.00000015	0.00000080	-0.00000014	-0.00000025	0.00000002
14	-0.00016234	0.00000358	-0.00000401	-0.00000868	-0.00000269	0.00000105	0.00000060	-0.00000037	0.00000015	0.00000007	-0.00000002	-0.00000001
15	-0.00184548	-0.00025898	0.00024484	-0.00005349	-0.00009021	-0.00000805	0.00002428	0.00000060	-0.00000476	0.00000044	0.00000115	-0.00000005
16	-0.00097797	-0.00015240	0.00013594	-0.00000287	-0.00005187	-0.00000133	0.00000805	0.00000105	-0.00000261	-0.00000012	0.00000054	0.00000003
17	0.01534378	0.00059814	-0.00048562	0.00019644	0.00034831	-0.00005187	-0.00009021	-0.00000289	0.00001576	-0.00000128	-0.00000396	0.00000023
18	-0.00288156	0.00137763	-0.00128885	-0.00000824	0.00019644	-0.00000267	-0.00005349	-0.00000868	0.00001475	-0.00000014	-0.00000317	-0.00000004
19	-0.07733850	-0.00602388	0.00565912	-0.00128885	-0.00048562	0.00013594	0.00024484	-0.00000401	-0.00002621	0.00000455	0.00000482	-0.00000072
20	0.08023786	0.00640669	-0.00602388	0.00137763	0.00059814	-0.00015240	-0.00025898	0.00000358	0.00002709	-0.00000495	-0.00000483	0.00000079
21	0.47382556	0.08023786	-0.07733850	-0.00288156	0.01534378	-0.00097797	-0.00184548	-0.00016234	0.00038895	0.00000180	-0.00006793	0.00000187

FIG.10B

Filtering coefficients for the second level of wavelet decomposition.

Column Row	13	14	15	16	17	18	19	20	21
1	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
2	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
3	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
4	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
5	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
6	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
7	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
8	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
9	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
10	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
11	-0.00000002	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
12	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
13	0.00000006	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
14	0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
15	-0.00000027	0.00000000	0.00000006	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000
16	-0.00000011	-0.00000001	0.00000003	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000
17	0.00000089	0.00000000	-0.00000018	0.00000001	0.00000004	0.00000000	-0.00000001	0.00000000	0.00000000
18	0.00000072	0.00000004	-0.00000017	0.00000000	0.00000004	0.00000000	-0.00000001	0.00000000	0.00000000
19	-0.00000128	0.00000008	0.00000019	-0.00000003	-0.00000004	0.00000000	0.00000001	0.00000000	0.00000000
20	0.00000123	-0.00000008	-0.00000018	0.00000003	0.00000003	0.00000000	-0.00000001	0.00000000	0.00000000
21	0.00001237	0.00000051	-0.00000241	0.00000000	0.00000046	0.00000000	-0.00000009	0.00000000	0.00000002

FIG.11A

Filtering coefficients for the third level of wavelet decomposition.

$$h_{i,j}^2 (i, j = 0, 1, \dots, 20)$$

Column Row $i \backslash j$	1	2	3	4	5	6	7	8	9	10	11	12
1	0.00000002	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
2	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
3	-0.00000008	-0.00000001	0.00000001	-0.00000001	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
4	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
5	0.00000044	0.00000003	-0.00000004	0.00000003	0.00000001	-0.00000001	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
6	0.00000000	0.00000003	-0.00000003	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
7	-0.00000233	-0.00000017	0.00000018	-0.00000016	-0.00000018	0.00000003	0.00000005	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000
8	0.00000052	-0.00000008	0.00000008	0.00000004	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
9	0.00001204	0.00000121	-0.00000124	0.00000070	0.00000086	-0.00000011	-0.00000026	0.00000001	0.00000006	-0.00000001	-0.00000002	0.00000000
10	0.00000189	0.00000078	-0.00000070	-0.00000004	0.00000023	0.00000003	-0.00000005	-0.00000001	0.00000002	0.00000000	0.00000000	0.00000000
11	-0.00006649	-0.00000047	0.00000064	-0.00000309	-0.00000385	0.00000052	0.00000112	-0.00000002	-0.00000024	0.00000004	0.00000007	0.00000000
12	0.00001148	-0.00000489	0.00000049	-0.00000016	-0.00000127	-0.00000012	0.00000044	0.00000007	-0.00000014	0.00000000	0.00000004	0.00000000
13	0.00038357	0.00002838	-0.00002534	0.0001449	0.00001535	-0.00000256	-0.00000462	0.00000015	0.00000077	-0.00000014	-0.00000024	0.00000002
14	-0.00016301	0.00000345	-0.00000391	-0.00000858	-0.00000275	0.00000102	0.00000061	-0.00000036	0.00000015	0.00000007	-0.00000002	-0.00000001
15	-0.00182289	-0.00025672	0.00024232	-0.00005290	-0.00008876	0.00000785	0.00002376	0.00000061	-0.00000462	0.00000044	0.00000112	-0.00000005
16	-0.00098480	-0.00014985	0.00013401	-0.00000258	-0.000005140	-0.00000126	0.000000785	0.00000102	-0.00000256	-0.00000012	0.00000052	0.00000003
17	0.01529107	0.00058164	-0.00046943	0.00018374	0.00034524	-0.00005140	-0.00008876	-0.00000275	0.00001535	-0.00000127	-0.00000385	0.00000023
18	-0.00283905	0.00138132	-0.00129472	-0.00000432	0.00018374	-0.00000258	-0.000005290	-0.00000858	0.00001449	-0.00000016	-0.00000309	-0.00000004
19	-0.07729822	-0.00597188	0.00561056	-0.00129472	-0.00046943	0.00013401	0.00024232	-0.00000391	-0.00002534	0.00000049	0.00000464	-0.00000070
20	0.08017953	0.00635153	-0.00597188	0.00138132	0.00058164	-0.00014985	-0.00025672	0.00000345	0.00002638	-0.00000049	-0.00000470	0.00000078
21	0.47386529	0.08017953	-0.07729822	-0.00283905	0.01529107	-0.00098480	-0.00182289	-0.00016301	0.00038357	0.00000148	-0.00006649	0.00000189

FIG.11B

Filtering coefficients for the third level of wavelet decomposition.

Column Row	13	14	15	16	17	18	19	20	21
1	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
2	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
3	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
4	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
5	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
6	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
7	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
8	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
9	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
10	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
11	-0.00000002	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
12	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
13	0.00000006	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
14	0.00000001	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
15	-0.000000026	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
16	-0.000000011	-0.00000001	0.00000003	0.00000000	-0.00000001	0.00000000	0.00000000	0.00000000	0.00000000
17	0.000000086	0.00000000	-0.00000018	0.00000001	0.00000004	0.00000000	-0.00000001	0.00000000	0.00000000
18	0.000000070	0.00000004	-0.00000016	0.00000000	0.00000003	0.00000000	-0.00000001	0.00000000	0.00000000
19	-0.000000124	0.00000008	0.00000018	-0.00000003	-0.00000004	0.00000000	0.00000001	0.00000000	0.00000000
20	0.000000121	-0.00000008	-0.00000017	0.00000003	0.00000003	0.00000000	-0.00000001	0.00000000	0.00000000
21	0.00001204	0.00000052	-0.00000233	0.00000000	0.00000044	0.00000000	-0.00000008	0.00000000	0.00000002